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A STUDY OF THE PROBLEMS BEARING ON TEACHER EDUCATION  
IN RELATION TO THE NEW PATTERN OF SCHOOL EDUCATION

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## FOREWORD

The 10+2 pattern of school education was recommended by the Education Commission (1964-66). The new pattern envisaged ten years of general education and two years of higher secondary education with a vocational stream. Some States had taken initiative to adopt the new pattern recommended by the Education Commission. Maharashtra was one of such States which adopted this pattern gradually from the year 1968-69. A few years back the National Council of Educational Research and Training also recommended the new pattern to the States and prepared two frameworks one for the 10 year school education and another for the higher secondary education. The frameworks included guidelines to serve as models to the States for adoption of the new pattern. Many States decided to implement the new pattern in due course.

It was, however, observed that the States were facing a number of academic and administrative difficulties in the implementation of the new scheme. The Department, therefore, decided to undertake a study of the problems faced by the States in the implementation of the new pattern so that guidelines could be provided to other States on the basis of this study. The study was undertaken in the State of Maharashtra which had started implementing the new scheme at an early stage.

The results of the study highlight the kind of problems felt by the State particularly, in the preparation of pre-service teachers and orientation of in-service teachers. Some suggestions have also been given on the basis of the findings of study so that the problems faced could be overcome. The study has been undertaken by Shri J.C. Goyal, Reader and Smt. R.K. Chopra, Lecturer in this Department. I commend their efforts in conducting the study, results of which will be helpful to the States in solving the problems of teacher education in the context of new pattern.

  
( R.C. DAS )

Head of the Department

Dated August, 1979



## P R E F A C E

A few years ago the nation embarked upon bringing about massive reforms in the educational system. One of the major reforms was the restructuring of the system into 10+2+3 pattern. The pattern was recommended earlier by the Education Commission (1964-66). The National Council of Educational Research and Training (NCERT) took upon itself to provide a model of the 10+2 system by preparing detailed guidelines in the form of frameworks for the 10-year school and for the higher secondary stage of school education. It also prepared model textbooks based on the new pattern. The new system was recommended to the States by the Ministry of Education and Social Welfare for implementation. As a result many States responded to it favourably and prepared themselves to adopt the new pattern.

It was, however, noticed that the States felt a number of problems in the implementation of the new pattern. Maharashtra was one of the States which adopted the new pattern much before it was recommended by the NCERT. The Department realised the need of making a study of the problems faced by the States particularly in respect of teacher preparation for the new system. The present study was therefore undertaken to find out the problems and difficulties bearing on teacher education in the State of Maharashtra and suggest some solutions so that the findings of the study could serve as guidelines for solving some of the problems experienced by the other States also.

The authors are grateful to the Director of Education, Director, State Institute of Education, Secretary, Maharashtra State Board of Secondary Education and Director of Technical Education who provided through interviews valuable information for the study. The Heads of Colleges of Education also owe our thanks for supplying data for the study. We shall be failing in our duty if we do not express our sense of gratitude to Prof. R.C. Das, Head of the Department under whose guidance the study has been conducted.

It is hoped that the findings of the study, the problems identified and the suggestions given for solution of some of the problems in the study will be useful for the State Departments of Education and Universities in order to meet the specific requirements of the system.

J.C. GOYAL  
(Mrs.) R.K. Chopra

Dated: August, 1979



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## I - I N T R O D U C T I O N

The Education Commission (1964-66) recommended the 10+2 pattern of school education comprising ten years of general school education and two years of higher secondary education with a vocational stream. Accordingly, the National Council of Educational Research and Training (NCERT) prepared, a curriculum framework for the ten-year school based on the new approach to the school education (NCERT,1975). Curricula for school education based on the recommendations of the Education Commission and the principles embodied in the framework were prepared to serve as models. The NCERT also prepared textbooks in different subjects in the light of the new curriculum. Training of key personnel from the States was also organised by the NCERT in order to help the States in the implementation of 10+2 pattern of school education. A considerable amount of funds was provided to the States for orientation of their teachers.

It was, however, found that the States faced a number of academic and administrative difficulties and problems in its implementation. Goyal (1977) highlighted the problems likely to be faced by the States in the implementation of the new pattern. The department realised that there were many implications of the new curriculum for teacher education programmes also, if the scheme was to be implemented successfully. It was also realised that the changes would affect both the pre-service and in-service education of teachers. Almost all the States in the Country have already ben organising in-service programmes for teachers with the help of the key personnel. It was, however, found that

practically no thought was given to modify the pre-service teacher education programme in any State in the light of the new pattern. The department, therefore, decided to undertake a study of the problems bearing on teacher education in the light of 10+2 pattern of education. It needs no emphasis that the success of any educational reform depends upon the quality of teachers being supplied by the teacher education institutions in the country. The modification of teacher education programme for pre-service training, therefore, becomes very important factor keeping in view the new developments at the school level. The importance of teacher education has, however, already been realised by the Government of India as it has established the National Council of Teacher Education (NCTE) to advise the Government for improvement of teacher education in the country. The NCTE, since its inception in 1973, has been taking various steps in this direction. It has published a framework 'Teacher Education Curriculum' in order to provide guidelines and models of teacher education for various stages for preparation of teacher education curriculum. Keeping in view the 10+2 pattern of school education NCTE is also engaged in the preparation of teacher education curriculum, textbooks and handbooks based on the new framework.

The State of Maharashtra was selected for the study because it was the first State in the country to adopt the 10+2 pattern and thus having the experience of problems faced by it in the implementation of the new pattern. The State was also selected for the study because there were numerous reports in the newspapers from time to time about the problems faced by the State in the implementation of the 10+2 pattern of education.

## II- PROCEDURE OF THE STUDY

The following procedure was adopted in conducting the study:

1. Permission of the State Department of Education, Maharashtra was obtained for conducting the study in the State. It involved collection of syllabi of the various school stages and teacher training institutions for analysis, collection of data from the teacher education institutions and interview with the officers of the State Department.

2. The following syllabi of all levels of school education were collected from the Directorate of Education.

- |                             |  |
|-----------------------------|--|
| a) Standards I-VII, 1972    | b) Standards VIII, IX & X, 1975          |
| c) Standards XI & XII, 1975 | d) Draft syllabi for Vocational Courses. |

3. The B.Ed. Syllabi from the following universities in the State were procedure.:

- |                        |                           |
|------------------------|---------------------------|
| i) Bombay University   | ii) Marathwada University |
| iii) Nagpur University | iv) Poona University      |
| v) S.N.D.T. University | vi) Shivaji University    |

The syllabus for elementary teacher education was collected from the State Institute of Education, Poona which is available in Marathi language only.

All the school syllabi were analysed to find out the new features and courses added to them as compared with their old programmes and the syllabi suggested by the NCERT. Similarly the syllabi of teacher education were examined to find out what corresponding changes had been incorporated to make them responsive to the emerging needs of the new school curriculum.

4. Sample: All the secondary teacher education institutions of the state were included in the study. Data were received from 29 (55.8%) out of 52 institutions.

## 5. Tools used

The following tools were developed and used for collection of data for the study.

### I. The Questionnaire

A questionnaire was prepared to collect information from the teacher education institutions in the State. The following aspects were included in the questionnaire for obtaining the necessary data about teacher education programmes in the State.

i) General data: This section of the questionnaire seeks information on such items as the courses offered by the institution, enrolment in each course, method and elective papers offered, staffing pattern, qualifications of the <sup>staff</sup> available in the institution.

Data were also collected about the preparation of teachers for the +2 stage and changes made in the teacher education curriculum in the light of requirement of 10+2 pattern of school education.

ii) Work Experience: Work Experience is an important component of the new pattern of school education. It is, therefore, necessary that every teacher education institution prepares every teacher for work experience also. A section of the questionnaire was devoted for collection of information about the work experience activities offered by the institution. Questions to find out the availability of trained and adequate staff, physical facilities, time devoted to the theory and practical aspects of the work experience, cooperation sought from the community in connection with the work experience activities and problems faced by the institution in the preparation

of teachers for work experience were also included. Information was also sought to find out what additional staff and physical facilities will be required for the introduction of work experience in the institutions, if it is not being offered at present.

iii) Health and Physical Education: Health and physical education has also been given special emphasis in the new curriculum not only for the physical development of children but also to develop proper attitudes and understanding of principles of health education including grace, beauty and harmony. This section of the questionnaire seeks information to find out whether the programme is being offered to the student-teachers on a compulsory basis in the institution. Information regarding the time devoted to the theory and practical work of this programme, the availability of trained staff and adequacy of the existing facilities was also collected from each institution. The problems faced, if any, in carrying out the programme were found out.

iv) Art & Culture: This part of the new curriculum includes the fine arts, music, dance and drama and not the art and drawing in traditional sense of the term. It has been included in the curriculum to cultivate aesthetic sense among children. The old concept of art in which the skill of drawing was only emphasised is required to be dispensed with. The development of this aspect among the children is considered essential for making them good future citizens. Information on this part of the questionnaire collected from the institutions included its teaching on compulsory basis, time devoted to its theory and practical aspects, availability of trained and qualified staff and physical facilities and additional staff required, if any, for

making the teaching of art and culture effective in the institution.

v) Development of Moral Values: Development of character building and moral values among children has been greatly emphasised in the new school curriculum. The new curriculum envisages that special attempt should be made through various activities to develop moral values in them. The questionnaire, therefore, included some questions to find out whether the student teachers are being prepared to handle this task effectively. The information was also sought from the teacher education institutions about the activities which should be organised for this purpose by the teachers for children. Since the evaluation of moral values is a difficult process, it is necessary to train the student-teachers in evaluating the development of such values among children. The Teacher Education Institutions were requested to point out the evaluation procedure recommended by them to student-teachers for evaluation of development of moral values.

vi) Semester & Grading System: One of the important recommendations in the new pattern is the introduction of the semester and grading system with a view to make it a success. The system has been recommended both for the school stage and teacher education. The institutions were asked whether the semester and grading systems have been introduced in teacher education and whether the student-teachers are being prepared in using the systems in schools.

vii) Content and Methods

The new system requires strengthening of subject content of student-teachers and the use of new approaches, methods and techniques. The information was, therefore, collected from the institutions whether the

content knowledge of student-teachers is enriched and they are trained in using new techniques of teaching like-integrated teaching, unit teaching, use of environmental resources in teaching

viii) Vocationalisation of Education: Vocationalisation of education is an important component of the new curriculum at the plus two stage. The aim of this component in the school education is to reduce burden on the academic stream, avoid rush for university education and to provide opportunities for employment. The information about preparation of teachers for the vocational stream, the vocations in which the training is imparted, the cooperation sought from the community and problems faced in this regard was sought.

## II. Interview Schedule

It was felt that all the information about the problems of teacher education can not be ascertained from the data collected from the Teacher Training Institutions. An interview schedule was, therefore, also used to collect information from the Director of Education, State Institute of Education, State Board of Secondary Education and State Board of Teacher Education. The authorities with which interviews were planned are directly related to the administration of schools, teachers and teacher training institutions. They were, therefore, considered having all the knowledge about the problems of teacher education in view of the introduction of the new school curriculum. The main purpose of using the interview schedule as a device for collection of data was also to supplement the information received from the teacher training institutions.

The interview schedule consists of two parts. The first part relates to collection of information about the school education and the new curriculum. The second part pertains to the teacher education and problems faced by the authorities in this regard.

The part relating to school education in the schedule included items to collect information about the introduction of 10+2 pattern in the state, the present structure of school system, the new subjects/programmes introduced at the school stage, difficulties faced by the State in introducing the new scheme, the new subjects like work experience and vocationalisation, in-service education of teachers, surplus/shortage of teachers and difficulties about buildings, equipment, etc.

The second part on teacher education included questions about the corresponding changes made in the teacher education programmes at elementary and secondary levels in respect of content of teacher education, instructional strategies, evaluation procedures, semester and grading systems, work experience & Vocationalisation, health & physical education, art & culture and community service. The problems faced in the supply of suitable teachers for the new system and education of teachers on the job were also discussed.

6. Data collected were tabulated and analysed to find-out the changes made by the State Government to improve the school curriculum in the light of the 10+2 pattern and to identify the problems in preparing the teachers for the new system.
7. The problems were identified and suggestions were given on the basis of the findings of the study.



### III - ANALYSIS OF THE SCHOOL CURRICULUM

The new pattern in the State was introduced in 1968-69 and completed in 1972 at the primary level. It was introduced at secondary level from the year 1972-73 to 1974-75. The Higher Secondary System of +2 level was started in 1975-76 and the first batch under the new system was out in March, 1977.

The primary stage in the state comprises classes from I to IV, middle school stage from V to VII, secondary school stage from VIII to X and Higher Secondary/Junior College stage classes XI and XII. The plus two pattern has three kinds of institutions in Maharashtra. There are 714 schools with class XI only, 191 junior colleges with class XII only and 400 junior colleges with classes XI and XII.

#### I. Syllabus for Standards I to VII

The revised syllabus for standards I to VII (1972), has the following objectives as laid down by the State Government:-

1. Acquisition of adequate mastery over the basic tools of learning.
2. Development of a spirit of inquiry and observation.
3. Development of moral and social values leading to cultural behaviour in the home and the community.
4. Development of habits of clean and healthy living.
5. Active participation in social and cultural activities.
6. Development of the habits of self-reliance and an attitude of respect towards the manual work.

7. Acquisition of skill in some socially and educationally useful productive crafts.
8. Development of national outlook leading to emotional integration, civic sense and moral responsibility.
9. Interest in the appreciation of fine arts.
10. Development of physical efficiency.

The following subjects have been included in the new syllabus by the State Government:-

1. Mother Tongue
2. Mathematics
3. General Science
4. Physical Education
5. Social Studies or History, Geography
6. Community Living

The committee which prepared the syllabus also recommended that there should be class-wise handbooks in all subjects for standards I to IV and subject-wise handbooks in standards V-VII. Another recommendation of the committee is the setting apart of some definite time for diagnostic and correctional work in standards I-IV particularly for Arithmetic and Mother Tongue. The committee has also suggested some additional topics and activities in some of the subjects for pupils with higher ability for study.

The scheme of subjects and their weightage in the syllabus is as follows:-

S.No.	Subject	No. of periods per week in Standards			
		<u>I-II</u> *	<u>III-IV</u>	<u>V</u>	<u>VI-VII</u>
1.	Community living	3*	2	2	2
2.	Mother Tongue	10	9	8	7
3.	Mathematics	10	8	7	7
4.	Craft, Art and Music	6	6	6	6
5.	General Science	2	3	3	3
6.	Physical Education	6	6	5	5
7.	Individual Guidance & supervised study	5	4	-	-
8.	Geography	-	2	2	2
9.	History	-	2	-	-
10.	History, Civics & Administration	-	-	3	3
11.	Hindi	-	-	2	3
12.	English	-	-	7	7
Total		<u>42</u>	<u>42</u>	<u>45</u>	<u>45</u>

\* Includes History, Geography & Civics.

Note: In addition 20 minutes per day are allowed for routine activities like the prayers, cleanliness, National Anthem, important news and talks on moral values, etc.

The following programmes may be called as the new features of the revised syllabus of the state government. A brief description of each of them is given below:-

1. Community Living

The scheme of subjects for standards I to II includes the community living as a new activity which includes History, Geography and Civics

relating to this level. This activity in standards III & IV includes only Civics while in standards V to VII the community living does not include any of these subjects. However, a separate subject entitled History, Civics and Administration has been introduced in these standards. The concept of community living is a substitute to the environmental studies which has been recommended by the Education Commission and the National Council of Educational Research and Training. The syllabus for standards I to IV in community living includes health and hygiene, social and natural surroundings, while in standards V to VII the topics included under this activity are the shelter, health and education.

2. Individual Guidance and Supervised Study:

Another feature of the new syllabus is the allotment of time for individual guidance and supervised study in standards I to IV. The time allotted for this purpose in standards I to II is 5 periods a week and in standards III & IV it is 4 periods a week. It is a new element introduced at this level by any State for this purpose.

3. Craft

The new syllabus for standards I to VII has still retained the craft as one of the activities, although the Education Commission and the curriculum issued by the NCERT recommended Work Experience in place of Craft. More recently, the Patel Committee has recommended to replace the Work Experience by Socially Useful Productive Work. It may, however, be mentioned that as stated in the objectives, the Craft has to be socially and educationally useful and productive.

Also during our personal interviews with the Director of and Secretary, State Board of Secondary and Higher Second Education, Maharashtra, it was informed that the Work Exp has been introduced in the schools and in-service teacher being oriented for this purpose.

In standards I & II the schools offer kitchen gar work, paper work and household activity under this progra III and IV spinning and weaving, needle work, bomboo and coir work are offered in addition to the above mentioned. For standards V to VII there is a provision of the follow

- i) Spinning and weaving
- ii) Agriculture
- iii) Wood work
- iv) Fisheries
- v) Home craft
- vi) Fire work
- vii) Poultry
- viii) Basketry
- ix) Puppetry

Each pupil has to offer only one craft in each cla scheme of work also states that some experimental work is introduced from V standard onward in addition to the the and practical work related to the crafts.

#### 4. Art and Music

The purpose of offering this area in the new schoo is not just to teach children the art, music etc. but to the required asthetic sense, grace and harmony. The emp the new curriculum should, therefore, be not only on the

on the Culture. The Maharashtra Government has included Art and Music as one of the subjects in the revised syllabus while art is taught in all the standards from I to VII, Music is started only from standard V onward. The time devoted to this activity in the school curriculum is 20 to 30 minutes everyday. It is evident from the syllabus of this subject that the spirit of including this subject in the new pattern has not been fully incorporated by the State of Maharashtra. Particularly its emphasis on the cultural aspect has not been included in the programme.

#### 5. Physical Education

Health and physical education is another area included in the new 10+2 pattern of school education. The syllabus for this subject in the school curriculum of the Maharashtra Government is included only physical education as one of the subjects and health education has not been specifically mentioned. However, the Director of Education informed the Investigators during the interview with him that health education aspect is covered under various other subjects such as physical education itself, general science at the primary level and biology and health and hygiene at the secondary level. The programme includes developmental exercises, physical activities, recreational games and citizenship education. The programme of physical education is looked after by the class teachers themselves up to standard VII, but special physical education teachers are appointed from standards VIII onward.

#### 6. Languages

The syllabus includes only mother tongue of the child up to standard IV. From V standard onward 2 more languages are introduced which are usually Hindi and English.

## II. Syllabus for Standards VIII to X

The new syllabi for standards VIII to X of the Maharashtra State (1975) was introduced from 1975-76 . This is the second stage of the school education and is termed as secondary education. The following are some of the worth noting features of the new syllabus:-

1. The syllabus includes 3 languages, Mathematics (Algebra and Geometry), Science (Physics, Chemistry and Biology), Social Sciences (History, Civics and Geography), Art (includes 4 options), Work Experience or Workshop Technology, Physical Education and Social Services.

The following is the allotment of periods for various subjects in Standards VIII, IX & X.

<u>S.No.</u>	<u>Subject</u>	<u>No. of periods per week in Standards</u>		
		<u>VIII</u>	<u>IX</u>	<u>X</u>
1.	First Language	6	6	6
2.	Second Language	4	4	4
3.	Third Language	6	6	6
4.	Mathematics	6	6	6
5.	Science	6	8	8
6.	Social Sciences	5	5	5
7.	Art	3	-	-
8.	Work Experience or one optional subject involving work experience	2	3*	3*
9.	Physical Education	2	2	2
10.	N.C.C./Scouting/Guiding/ Social Service/Civil Defence/ Defence Studies	2	2	2
Total =		<u>42</u>	<u>42</u>	<u>42</u>

\* The schools teaching technical and agricultural subjects shall be permitted to allot 6 periods instead of 3 for these optional subjects in standards IX and X.

2. Syllabus of Art for Standard VIII includes Drawing and Painting, Indian Music, European Music and Technical Drawing. The pupils from technical schools can only offer technical drawing while other pupils can offer any one of the other three subjects mentioned above. The Art is compulsory up to standard VII only.

3. Work Experience at this Stage has two clusters — A & B. 'A' forms technical cluster and 'B' forms the agriculture cluster. The pupils have to offer one Work Experience activity from each cluster.

Cluster 'A' includes three major offerings and 10 additional Work Experience Activities. The cluster 'B' has only 3 types of Work Experience programmes. There is a provision in the syllabus that the schools which already have arrangements for some Work Experience activities or would like to start some others than prescribed in the syllabus may seek prior approval of the Maharashtra State Board of Secondary Education. Pupils of technical schools of standard VIII will offer Workshop Technology in lieu of the Work Experience.

4. Physical education is compulsory in all the three standards from VIII to X. Health education has not been given special emphasis as desired in the new pattern.

5. Social services has been included as one of the compulsory activities in standard VIII. Under this programme a student has to offer one activity out of social service, scouting and guiding, civil defence, IBC or



defence studies.

6. In standards IX and X a pupils has to offer any one of the following optional subjects:-

- i) Introduction to the world of work or home science with two work experience activities to be selected out of a list of 26 given in the syllabus.
- ii) Elements of Engineering
- iii) Elements of Agriculture
- iv) Elements of Commerce and Accounts
- v) Elements of Fine Arts
- vi) Elements of Industrial Crafts

Out of the total of 100 marks for the optional subjects, 50 marks are allotted to Workbook and 50 to other two Work Experience Activities (25 marks each) or for practical work related to the activity. In order to pass the secondary school certificate examination each pupil has to offer physical education and one of the following five activities.

- i) Social Services: It includes nine manual work activities out of which one activity has to be selected. These are sweeping, decoration, cleanliness, gardening, civil works, debris clearance, preparation of simple implements for cleanliness, domestic sanitation and parades. In addition, each pupil has to offer one educational activity out of seven, one health activity out of seven, one entertainment programme out of six, one social service activity out of four, ~~one out of the activities from the village~~

adoption of <sup>programme</sup> and a project which is compulsory for all pupils

- ii) Scouting/guiding
- iii) N.C.C.
- iv) Defence Studies
- v) Civil Defence

7. Evaluation occupies an important place in the new programme.

subjects The general pattern of grading system <sup>for evaluation of pupils in academic -</sup> has not been adopted by the State.

However, it is necessary for a pupil to obtain C grade in Work Experience, physical education and social service. The evaluation of these activities is done by the school itself even in the final class. The means used in the process of evaluation are pupils' diaries, group leaders' diaries and teachers' diaries.

The candidates will not be allowed to appear at the SSC examination without producing a certificate of having satisfactorily completed the courses in these two subjects namely physical education and one of the social service activities.

### III. Syllabus for Standards XI and XII.

The revised syllabi for standards XI and XII (1977) were approved by the Government of Maharashtra and published in May, 1975. The syllabus for standards XI was introduced from June, 1975. The examination for standard XI was conducted by the Institutions concerned as decided by the Government. From June 1976, the syllabus for standard XII was introduced in Higher Secondary Institutions in the State and the first Higher Secondary classes i.e. +2 stage consisting of standards XI and XII have mostly been attached to the colleges and to a few secondary schools.

The scheme of subjects and allotment of periods for Standards XI and XII is as follows:-

Each student in Standard XI and XII will have to offer two languages as compulsory subject one at a higher level and the other at a lower level or both at a higher level, selecting one from each of the following two groups and any four optional subjects:

1. English (higher/lower level)
2. Modern Indian language or modern foreign language (higher level)  
or modern Indian language or modern foreign language (lower level)

List of optional subjects:-

- |   |   |
|---|---|
| 1. A modern Indian Language   | } Any one other than the one offered<br>under compulsory languages. Foreign<br>languages include French, German,<br>Russian, Hebrew |
| 2. A modern foreign language  |   |
| 3-8. Sanskrit, Prakrit, Pali,<br>Arabic, Persian, Avesta<br>Pahlavi | } Any one language out of numbers 3-8.  |
|   |   |
| 9. History  | }   |
| 10. Geography   |   |
| 11. Mathematics & Statistics  |   |
| 12. Geology   |   |
| 13. Political Science   |   |
| 14. Home Management (for Standard XI only)                          |   |
| 15. Food Science (for Standard XI only)                             |   |
| 16. Child Development (for Standard XII only)                       |   |
| 17. Textile, laundry and clothing (for Standard XII only)           |   |
| 18. Sociology   |   |
| 19. Philosophy  |   |
| 20. Logic   |   |
| 21. Psychology  |   |
| 22. Economics   |   |
| 23. Book Keeping and Accountancy                                    |   |
| 24. Organisation of Commerce  |   |
| 25. Secretarial Practice  |   |
| 26. Cooperation   |   |
| 27. Physics   |   |
| 28. Chemistry   |   |

29. Biology (Botany and Geology)
30. Drawing
31. Design and Colour
32. Composition
33. History of Art and Appreciation
34. Indian Music
35. Indian Music (Percussion)
36. European Music
37. Dancing
38. Workshop Technology and Engineering Drawing
39. Allotment of Mechanical Engineering and Engineering Drawing
40. Allotments of Electrical Engineering
41. Allotment of Civil Engineering and Engineering Drawing
42. Crop Production/Animal Science I (Standard XI)
43. Crop Production/Animal Science II (Standard XII)
44. Defence Studies
45. Occupational Orientation

The following is the allotment of periods for Standards XI and XII; assuming the total number of working days in an academic year to be 220.

		(A)				(B)		(C)		Total
S.No.	Faculty	Compulsory Subjects				Optional Subjects		Physical Education / Work-Experience		
		2 Language(HL)Language(LL)	Lect. Tutorials	Lect Tutorials	(four)					
1.	For Arts and Commerce Students	3	-	4	1	6 periods each (6x4=24)		4		36
2.	For Science Students.	3	-	4	1	8 periods each (8x4=32)		2		42

N.B.-(1) The subjects involving Practicals should have 4 periods for lectures, 3 periods for practicals and 1 period for tutorials.

(2) The periods and tutorials should be of 35 to 40 minutes duration each. One tutorial for each subject may be arranged per week according to needs for batches of 20 to 40 students. The number in each batch should not exceed 40 in any case. Period of tutorial may be exchanged for practicals. The tutorials will be conducted by the teachers themselves.

- (3) Heads of Higher Secondary Institutions are free to alter some periods for different subjects according to need.

Some of the major features of the syllabi for standards XI and XII are given below:-

- 1) The syllabi offer three streams - Art, Science and Commerce.

There is no separate stream for vocational education as has been envisaged in the curriculum for the higher secondary stage recommended by the National Council of Educational Research and Training. The vocationalisation of education is being introduced from 1978-79 in only twenty schools, five districts on a pilot basis. However, some of the vocationalisation and practical subjects were introduced in the three streams mentioned above. In remaining schools the existing pattern will continue. Some subjects have been included under more than one stream as usual.

- 2) The syllabus provides two compulsory languages for optional subjects in each stream. In all, there is a list of forty five optional subjects which have been categorised under three streams separately.

- 3) The new syllabi for +2 stage are much more broad based and a number of vocational subjects have been provided to give it a vocational bias.

- 4) There are no other compulsory general subjects to the areas of social, economic and scientific studies except the two languages common to all streams as has been recommended in the NCERT curriculum for the Higher Secondary stage (NCERT, 1976)..

5) Before the introduction of vocational courses from 1978-79 on a pilot basis in 4 schools<sup>of</sup> each of the 5 districts selected for the purpose, the State Board had offered in the general scheme of subjects the following 9 optional orientation courses on an optional basis in standards XI and XII:-

- i) Motor cycle and scooter repairs
- ii) Auto-electricals
- iii) Stenography
- iv) Elementary office procedure
- v) Seed production.
- vi) Applied Art Junior
- vii) Store keeping, purchase procedure.
- viii) Library science.
- ix) Audio-visual aids.

6. The following scheme of subjects has<sup>now</sup> been adopted in standards XI and XII:-

- i) English (Higher or Lower level)
- ii) A modern Indian language or a modern foreign language one at higher level and the other at lower level.
- iii) Three academic subjects out of the subjects offered at the +2 level.
- iv) Two vocational subjects out of the subjects offered under the three major groups.

The vocational courses offered are grouped as under:

- a) Technical Group
  - i) Electrical maintenance
  - ii) Mechanical maintenance
  - iii) Scooter and motor-cycle servicing
  - ix) General contracting

b) Commercial Group

- i) Banking
- ii) Insurance
- iii) Office Management
- iv) Marketing and managementship
- v) Small Industries and self-management
- vi) Elementary industrial management

c) Agricultural Group

- i) Animal science and dairying
- ii) Farm mechanism
- iii) Crop science
- iv) Horticulture

As has been mentioned earlier each pupil in standard XI & XII has to offer two vocational courses on compulsory basis under the three streams of art, science and commerce. No separate stream has been provided for vocational courses. The details of these courses have been prepared which include the practical work, allotment of number of weekly periods, equipment, staffing pattern and examination scheme.

As pointed out earlier the government is introducing vocationalisation of education on a pilot basis in 4 schools of each of the 5 selected districts in the State. Each school has offered 4 vocational courses and 25 students will be enrolled in each vocational course. Thus the programme will cover only 2000 students to begin with. For each school a non-recurring grant up to Rs.45000 will be sanctioned for conducting these courses.

Each pupil has to offer two vocational courses from the same group and possibly the vocational courses could be selected from the stream which the pupil has offered. The State has planned to conduct surveys in four districts of the State to find out the possibilities of future development of vocationalisation. It is also proposed to appoint District Vocational

Officers to look after the scheme of Vocationalisation of education in each district.

It was mentioned during the interview with the officers concerned that the students with vocational subjects will be eligible for admission to all streams of the university <sup>/ including medical and engineering</sup> like B.A., B.Sc. & B.Com. / However, the offerings of vocational courses by the students at +2 level will not make them eligible either for a job in a technical concern or to get admission in higher technical courses.

It would have been better if the qualification in vocational courses could be made equivalent to some certificates or diploma so that the students are considered qualified for a skilled job.

The teachers for vocational courses will be technically qualified persons and will not have any teacher education to begin with. However, they will be given some orientation in pedagogic courses. There will be two categories of teachers fulltime teachers and visiting teachers. Full-time teachers will teach mostly the theory part of a vocation and skilled experts in the vocation will be invited <sup>on part-time basis</sup> /for practical work in the concerned vocation. While teachers for academic subjects will generally be post-graduates in the concerned subject, the technical teachers will be diploma holders only. This indicates that the <sup>purpose of</sup> vocational courses at +2 level to enable students to start their own vocation will be defeated.

It was mentioned during the interview that no difficulty regarding building and equipments is envisaged because the courses are being started in such schools where facilities already exist. The real difficulties will, however, be known after one year or two years have passed.



#### IV - Status and Problems of Teacher Education Institutions

A questionnaire was prepared and sent to all the 52 teacher education colleges of secondary education in the State to study the problems bearing on teacher education for the 10+2 pattern of education. Out of the total number of 52 institutions only 29 (55.8%) responded. Some of them have not furnished complete information. The questionnaire is divided into eight major parts to collect information regarding the facilities available in the colleges of education and to find out the changes made in the B.Ed course in view of the 10+2 pattern of education and to study the problems in this regard.

The first part deals with general information. The information obtained from the colleges of education pertains to the year 1976-77. The table-1 given below shows the enrolment provision in the B.Ed. class of the different universities in the States.

Table 1

Enrolment in B.Ed. Course in 1976-77

Name of the University	No. of Institutions in the University which responded.	Total Enrolment in B.Ed.
Marathwada	4	450
Poona	6	1135
S.N.D.T.	1	162
Bombay	8	1081
Nagpur	6	485
Shivaji University	4	641
Total	29	3954

We have seen from the above table that the average enrolment in each institution is about 136 students. The major part of the enrolment of B.Ed. students is in the universities of Bombay and Poona. It also indicates that most of the B.Ed. colleges with large enrolments are situated in cities.

The State has six universities which offer B.Ed. courses. It was, however, found that in all the universities there is a uniform pattern with regard to offerings of the course. There are six theory papers compulsory for all students in all the colleges. In addition, every candidate has to offer two method papers. This is the general trend in the State as far as the courses of B.Ed. programme are concerned.

28 out of the 29 colleges of education which have responded have informed that no changes have been made in their B.Ed. curriculum with a view to prepare teachers for the new system of education. At the time of interview with the officers of the State Government, the investigators were also informed that no change has been made in the B.Ed. programme so far except that the work experience activities have been added in the course. The State Government has now appointed a committee to look into the question of making changes in the B.Ed. programme and to prepare teachers for the +2 stage. The investigators were also told that the teachers in service are being regularly oriented towards the new pattern and to enrich their knowledge in the subject matter concerned. However most of the inservice programmes have been organised for the subjects of science and mathematics.

The colleges from which data have been collected have informed that in addition to B.Ed. course 23 of them are also running M.Ed. course, three offer Ph.D. and two are offering 'diploma in education' course. Only six of

the colleges out of 29 have informed that they are also preparing teachers for the +2 stage. However, they have not indicated any difference in their programmes as compared to the programme for the teachers for the 10 year school. All the teachers have to offer two method subjects irrespective of the stage for which they are prepared. The only difference indicated by the two institutions is that the method courses for the teachers of the +2 stage are more intensive and advanced. They have also indicated that better qualified teachers with advanced subject courses are required for the +2 stage.

The information was also gathered about the subjects being offered for teaching methodologies in the colleges, number of teacher educators available to teach / a particular subject with a postgraduate degree, number of teacher educators who offered the method subjects at the graduation level and the subjects which they offered for the methods of teaching course during their training. Table 2 given below incorporates this information.

Table 2

Teaching Subjects Offered by Colleges of Education

Name of subject	No. of colleges offering the subject	No. of Teacher Educators with the subject at post graduation level	No. of Teacher Educators with the subject at graduation level	No. of Teacher Educators offering the subject for method of Teaching
English	22	11	22	20
Hindi	21	17	14	19
History	22	18	18	20
Geography	22	6	15	17
Marathi	22	16	22	19
Mathematics	21	6	21	21
Economics	5	3	5	4
Sanskrit	12	8	9	10
Commerce	3	-	1	2
Home Science	1	-	1	1
Gujarati	5	2	3	4
Sindhi	1	-	1	1
Science	22	6	22	21

Political Science	5	3	3	5
or Civics				
Agriculture	1	-	-	1
	185	95	157	165

The figures in the table indicate that 15 different subjects are offered by the colleges for methods of teaching. English, History, Geography, Marathi and Science are offered in 22 colleges out of 29. Hindi and Mathematics are offered in 21 colleges. Subjects like Agriculture, Sindhi, and Home Science each are offered in one college of education only. Commerce is offered in three colleges and Political science/Civics, Gujarati and Economics are each offered in five colleges of education. It will be noticed that the subjects of vocational nature like Agriculture, Home Science, Commerce are offered in a very few colleges.

It will also be observed from the table given above that in the subjects being offered by the Colleges of Education, the number of teacher educators with post-graduate degrees are not available in each subject. The percentage of postgraduate teachers available for these subjects in various places differs from college to college and from subject to subject. According to the figures in table II, the number of postgraduate teacher educators who should be considered qualified for teaching methodology of a particular subject in a college of education is only about 51%. It will also be seen that in certain cases, teachers of some subjects had not offered the particular subject even at the graduate level. In some cases, it was also found that a teacher had not offered the subject, which he is teaching at the training college as a method subject for teaching. However, out of the total number of 355 teacher educators working in the 22 training colleges, 252 i.e. about 71% hold postgraduate degrees. But as stated earlier the postgraduate degrees

in many cases, are not held in the subject in which they are required.

One may, therefore, conclude that in about 49% cases, properly qualified teachers are not available to teach a particular subject. Moreover the B.Ed. programme has not been adapted so far to suit the change in the educational pattern at the school level.

#### Position of Work Experience

Information about the teaching of work experience was received from only 26 colleges of education, out of which 19 have provision of some activities of work experience. The remaining 7 colleges have reported that there is no provision of any work experience in them.

Data were also collected about the time being devoted to the theory and practical work for the work experience activities in these colleges. The following table gives the idea of the time being devoted to the work experience activities.

#### Time devoted to Work Experience

Time devoted to	<u>No. of Colleges Devoting Time</u>			Total
	<u>1% to 5%</u>	<u>6% to 10%</u>	<u>11% to 15%</u>	
Theory	13	2	1	16
Practical work	14	1	1	16

It will be observed from the above table that most of the colleges devote one to 5% of the total time both to the theory and practical work for activities of work experience. It may be mentioned here that the time being devoted to work experience activities is much less than that recommended in the 10+2 pattern of education. It is quite obvious that the pupil teachers will not be able to gain sufficient mastery in the work experience in such a short time. It would therefore, be desirable to increase the time for work experience

activities in accordance with the new pattern. Recently the Central Board of Secondary Education has announced that about 20% of the time in schools will be devoted to the socially useful productive work and health and physical education. In view of this, it would be better if the allotment of time for work experience activities in the teacher education colleges is increased to about 10% as recommended in the "Teacher Education Curriculum - A Frame Work"

The colleges of education were also asked to mention the work experience activities being offered by them. The table given below shows the position of work experience activities in colleges of education:-

Table 3

Position of work experience Activities in Colleges of Education

Sr. No.	Work Experience Activity	No. of colleges offering the activity	No. of colleges having trained staff	No. of Colleges having Physical Facilities		
				Adequate	Some what adequate	In adequate
1.	Maintenance of Electrical Gadgets	12	9	3	5	4
2.	Book binding & preparing office files	10	7	2	6	2
3.	Kitchen gardening	9	8	3	3	3
4.	Pot culture	8	7	5	2	1
5.	Sewing, Knitting & embroidery	4	4	2	2	-
6.	Repairing Stoves	3	3	-	3	-
7.	Decoration articles	3	2	1	2	-
8.	Preparation of improvised aids	2	1	1	-	1
9.	Tree planting	2	2	-	1	1
10.	Photography	2	2	1	1	-
11.	Doll making	2	2	1	1	-
12.	Card board work	2	2	2	-	-
13.	Catering	1	1	1	-	-
14.	Cane work	1	1	-	1	-
15.	Wood work	1	1	-	1	-
16.	Batik	1	1	1	-	-
17.	Spining and weaving and agriculture	1	1	-	-	1
		64	53 (83%)	23 (36%)	28 (44%)	13 (20%)

It will be seen from the table that there are 17 types of work experience activities offered by the colleges of education. It is, however, clear from the figures in the table that the "Maintenance of electrical gadgets" is being offered by 12 colleges of education out of 19 which are offering work experience activities. This activity is being offered by the maximum number of colleges. The second work experience activity which is being offered by 10 colleges of education is "book binding and preparation of office files". This is the second most popular activity. 'The kitchen gardening' is being offered by 9 colleges of education, pot culture by 8 colleges of education, sewing, knitting and embroidery by 4 colleges of education, repairing stoves and preparation of decorative articles each by 3 colleges of education, preparation of improvised aids, treeplanting, photography, doll making and card board work each by two colleges of education. The other work experience activities are catering, cane work, wood work, batik and spinning, weaving/agriculture are being offered by one college each.

The table also shows the number of colleges which have trained staff for the work experience activities being offered by them. It will be seen from the figures in the table that about 83% colleges have the required trained staff in them.

The availability of physical facilities for work experience activities was also surveyed in terms of their being adequate, somewhat adequate and inadequate. The terms adequate, somewhat adequate and inadequate mean the extent <sup>of</sup> provision available for various physical facilities like the space, workshop, equipment, tools, etc. The table shows that about 36% of the colleges have adequate physical facilities, 44% have some facilities and 20% of them have inadequate facilities for these activities.

The new pattern of education suggests that cooperation from the community should be sought in the work experience activities so that both the institutions and the community may benefit from each other. The information sought regarding this from the colleges of education reveals that only 10 colleges are seeking some kind of cooperation from the community and the others are not doing any thing in this regard. It was also found out as to what kind of cooperation is being sought from the community by them. The table given below shows the work experience activities and the type of cooperation being sought from the community.

Table 4

Work Experience Activities and colleges of education seeking co-operation from community.

Sr. No.	No. of Colleges	Work experience activity	Procedure of co-operation.
1.	2	Book Binding	Experts invited from the Community and visit to book binder's shop,
2.	2	Electric gadgets	
3.	2	Tree planting	Co-operation from forest Deptt. & visit to farms
4.	1	Flower arrangement	
5.	1	Technical work	Cooperation from I.T.Is.
6.	1	Photography	Expert Photographers
7.	1	Doll Making	Visit to other schools
8.	4	Kitchen gardening	Experts of Kitchen gardening and nursing.
9.	1	Pot culture	From community & visit to the local potter



The most common activities in which cooperation from the community is being sought are kitchen gardening, book binding, maintenance of electrical gadgets and tree-planting. Some cooperation is also being sought in the activities of flower arrangements, technical work, photography, doll making and pot culture. The procedure of cooperation from the community includes inviting the experts for lectures, visits to the places of work experience activities like the farms, photographers, local potters, kitchen gardening and nurseries.

The Colleges of Education have pointed out certain problems in the organisation of work experience activities. The table given below shows the type of problems and the number of colleges which have pointed out a particular problem.

Table 5

Problems in the organisation of work experience

<u>S.No.</u>	<u>Problem</u>	<u>No. of colleges</u>
1.	Paucity of qualified staff	10
2.	Lack of separate workshop	8
3.	Shortage of time	8
4.	Lack of funds	7
5.	Lack of tools & implements	2
6.	Work experience not a part of B.Ed curriculum	2
7.	Charging additional fees	2
8.	Lack of interest among staff and students	3

The most common problems are paucity of qualified staff, lack of proper facilities and lack of interest among staff and students.

The other problems which are not so common are lack of tools and implements, lack of interest among staff and students and charging additional funds from the students.

The position regarding additional staff required for work experience activities was also found out. Table No.6 given below shows the requirement of additional staff and the work experience activities for which staff is required

Table 6

Activities and No. of colleges requiring additional staff

<u>S.No.</u>	<u>Activity</u>	<u>No. of colleges</u>
1.	Electrical gadgets & appliances	9
2.	Agriculture	4
3.	Preparation for improvised aids	2
4.	Pot culture	2
5.	Technical course	2
6.	Craft	1
7.	Bookbinding	1
8.	Batik	1
9.	Leather work	1
10.	Doll making	1
11.	Puppet making	1
12.	Carpentry	1

It will be observed from the table that the staff<sup>is</sup> required for the activities like maintenance of electrical gadgets and appliances, agriculture and preparation of improvised aids in for the largest number of colleges.

Information was also sought about the work experience activities which the colleges of education like to introduce. Only seven colleges of education have mentioned that they would like to introduce some activities. Six colleges of education have said that they would like to introduce the

'maintonance' of electrical gadgets and appliances; three of them agriculture and three 'kitchen gardening'. Other activities shown in the table given below have been mentioned by one college of education each.

Table 7

Work Experience Activities proposed to be introduced.  
(colleges involved = 7)

<u>S.No.</u>	<u>Name of the Activity</u>	<u>No. of colleges</u>
1.	Electrical gadgets & appliances	6
2.	Agriculture	3
3.	Kitchen gardening	3
4.	Batik	1
5.	Leather work	1
6.	Doll making	1
7.	Puppet making	1
8.	Crafts	1
9.	Stove repair	1
10.	Radio repair	1

Information was also collected about the additional physical facilities required for work experience activities by the colleges of education. It was found that 11 colleges want properly equipped workshops, six colleges require agriculture tools, implements and other facilities, two require additional funds and two others need additional tools and equipment for various activities.

It may be said in conclusion that although the work experience is a compulsory part of the new system of education, the position of training in work experience in colleges of education leaves much to be desired. It not only needs to be introduced in all colleges but also to be improved in respect of time to be devoted, physical facilities to be provided, additional qualified staff to be appointed, and organisation and evaluation of work experience programmes.

HEALTH AND PHYSICAL EDUCATION PROGRAMME

An important aspect of the new pattern of education is the health and physical education programme. It is included in the ten-year curriculum as a compulsory area of study for the pupils. It is, therefore, necessary to prepare teachers properly for this programme in the teacher education colleges so that they can effectively carry out this activity in the schools.

The survey has revealed that out of 28 teacher education colleges which have furnished information on this aspect, only 14(50%) are devoting sometime to it. The remaining 14 are not doing anything in this area. Out of 14, 10 are preparing teachers for it on a compulsory basis while 4 other colleges have made this subject optional for the pupil teachers.

Information was also sought from the colleges of education regarding the weekly time being devoted to this aspect by them. The table given below shows the percentage of time being devoted to the theory and practical work of health and physical education.

Table 8

Percentage of Weekly Time Devoted to Health and Physical Education

Time devoted to	<u>No. of Colleges Devoting Time</u>			<u>Total</u>
	<u>1 to 3%</u>	<u>4 to 5%</u>	<u>10 to 15%</u>	
Theory	2	2	1	5
Practical	5	3	1	9
Total	7	5	2	14

It will be seen that 7 colleges are devoting one to three percent of the weekly time to this activity. This time is generally equivalent to one period a week. On the other hand the majority of the responding

colleges are devoting more time to practical work than to its theory work. In a course like this, it is desirable that more time should be devoted to practical work. Seven out of 14 colleges offering this programme to the students have trained staff available for the subject. The other seven colleges do not have trained staff. As regards the physical facilities, 9 colleges have mentioned that they have adequate facilities for the purpose while others do not have it.

The colleges were also asked to state the problems faced or envisaged by them if the programme is carried out in their colleges. The problems mentioned by them are given in the table below:-

Table 9

Problems faced/envisaged in Carrying out Health and Physical Education Programme

<u>Nature of the Problem</u>	<u>No. of colleges</u>
Lack of trained staff	7
Lack of budget provision.	4
Lack of facilities for out door games.	2
Health Education not a part of B.Ed. Programme	2
Availability of time	1
Lack of interest among students	2
	<hr/> 18

It will be observed from the above table that 7 colleges have lack of trained staff, while other four have no budget provision for the purpose. Other problems mentioned by the colleges include lack of interest among students, availability of time and lack of facilities for out door activities. It was however noted during the analysis of the B.Ed. syllabi of the Universities in the State that health services in schools is a part of the paper on School Organisation in the syllabi of all the universities.

Practical work related to physical education is included only in the syllabi of universities of Bombay, Marathwada and Shivaji.

The colleges of education were requested to supply information on the teaching of art and culture to their students. Only 9 colleges of education are offering this subject as a compulsory part of the B.Ed. Programme. It means that the other 19 are not doing anything in this regard perhaps because it is not included in the syllabus. As regard the time being devoted to this activity, most of the colleges offering the subject have stated that one to two periods a week are being devoted to its theory and practical work. Most of the colleges are devoting almost equal time to both the aspects. The position regarding availability of trained staff for teaching art and culture in these colleges seems to be satisfactory. 13 out of 20 colleges have said that they have trained staff available in their colleges.

As regards the facilities available for teaching the subject only 5 have adequate facilities, 13 have somewhat adequate facilities and others have nil. The position of facilities, therefore, does not seem to be satisfactory. The colleges were also requested to mention

the additional staff they will require if the subject is introduced in their colleges. 19 of them have mentioned that they would require art teachers, 4 of them music teachers, 4 will require instrumental music teachers and three others will require drawing teachers. As regards the facilities required for introduction of this activity, 8 colleges would need art and music room with other necessary facilities and 3 others will need necessary equipment for the purpose.

It may be said in conclusion that the position of teaching art and culture in the colleges of education is not upto the mark.

### Development of Moral Values

Development of moral values among children is another important aspect of the new system of education. The colleges of education were asked to give information about the steps being taken by them in order to prepare their student teachers for development of moral values in pupils. It has been found that only 10 out of 28 colleges of education are doing some work in this regard. The colleges were also asked to list the activities through which they are training the student teachers for the development of moral values and through which they themselves would develop moral values among children. Table given below shows the activities and the number of colleges which are organising these activities in their colleges for this purpose:-

Table 10

### Moral Values

Institutions deve- loping Moral values		List of activities	No. of Instt.
Yes	10	1) Cultural activities	6
No	18	2) Lectures & Discussions	4
		3) Celebration of National Days	3
		4) Common Prayer	4
		5) House system	1
		6) Weekly period of moral instructions	1
		7) Community Living	1
		8) Devotional songs	1

It will be seen that the most common activities being organised for this purpose are cultural activities by 6 colleges of education,

common prayers by 4 colleges of education, lectures and discussions on the them by four colleges of education and celebrations of National Days by three colleges of education. The other activities like the weekly period of moral instruction, devotional songs, community living and house system each are being organised by one institution only.

It appears that the colleges of education have not taken up the programme of development of moral values among children in a serious manner.

Only one college of education has informed that it is preparing its student teachers for the evaluation of development of moral values among children. It is very difficult to evaluate the development of moral values and it is necessary that the student teachers are prepared thoroughly for this purpose. The procedure for evaluation in the form of self evaluation performa is being used by one institution. The colleges of education were also asked to state the problems faced or envisaged in taking up the programme. Three colleges have informed that there is shortage of time for this activity. One college has informed that there is frustration among staff and students and therefore the programme can not be taken up effectively.

#### Reforms in Evaluation

The new system of education has also suggested that there is a need to improve the procedure of evaluation in education. It has, therefore, been suggested that the semester and grading system should be adopted in order to improve the deficiencies in the present system of evaluation. It is good that 28 colleges of education out of 29 have



informed that they are preparing their student teachers in the new system of evaluation. They have also informed that they have trained staff available for this purpose. It was, however, found that student - teachers are not being fully prepared in the semester and grading systems. It has not been introduced at the school level also. It means that they are being prepared for the objective type of evaluation and how to interpret the results statistically. There is, therefore, a need to include the semester and grading systems in the course for reforms in evaluation.

#### Content and Methods

It was revealed that out of 29 colleges of education only three are teaching subject content to the student teachers. It has been noted that the teaching of content does not form part of the syllabus. The three colleges are taking up teaching of content at their own in view of the 10+2 pattern.

Eight colleges of education have mentioned that their method masters face some problems in teaching of content to the student-teachers. The subjects in which teachers feel difficulty are science in seven colleges, mathematics in six colleges, geography in four colleges and history and economics each in one college of education. The colleges of education were also asked whether they have introduced teaching of new approaches and methods of teaching to their teacher trainees as has been recommended in the new pattern. The new approaches include like unit teaching, integrating teaching, problems solving, etc. 13 colleges have said that they are preparing their trainees in these new approaches.

One college has informed that an orientation programme for the new batch is organised in April and May every year immediately after their selection for the training. They are supplied with a list of books on content during the vacations. At the beginning of the session a test is given to the student-teachers to find out their weaknesses in the content. If necessary, remedial work is taken up for a week or so.

Colleges were asked about the problems faced or envisaged by them in adopting the new approaches to teaching. They have pointed out a number of problems. Six colleges have indicated that they have shortage of time for teaching of content, three have said that there is no experimental school to use the new approaches. Three colleges have said that there are no post graduate staff members in the college. Two have indicated that there is lack of cooperation from the practicing schools. One college has informed that there is lack of reference and other books and lack of facilities and equipment. It may be mentioned that the courses in the new pattern have been enriched and therefore, there is a definite need to include or revise the subject content when the student teachers come to the colleges of education.

#### Vocationalization of Education

Teacher education institutions have not started preparation of teachers for vocational training. In fact, the vocationalization of education at the school level has been started from 1978-79 in some schools on an experimental basis. Therefore, no information was available from teacher education institutions regarding vocationalization. The scheme for introduction of vocationalization in schools has been discussed in Section III of the report.

### V. - Findings of the Study

The findings of the study based on the analysis and interpretation of the data collected from various sources in the state are given below:-

1. It was revealed that the new pattern of education in the State of Maharashtra was introduced gradually from 1968-69 and completed in March, 1977. The implementation of the new scheme is based on the recommendations of the Education Commission (1964-66) and not on the guidelines suggested by the NCERT which were formulated much later.
2. The school curriculum for standards I to VII still includes craft as one of the subjects and not the work experience as recommended in the 10+2 pattern. However, it is referred to as work-experience now.
3. Community living and individual guidance and supervised study have also been allotted time in the new syllabus for standards I to VII.
4. Social service has also been included in the syllabus for class VIII as a compulsory activity for all pupils.
5. The syllabus for standards IX & X includes the "Introduction of World of Work" in addition to work experience activities.
6. At the plus two stage, nine occupational courses were being offered on an optional basis till 1977-78. From 1978-79, the state has introduced the scheme of vocationalisation on pilot basis in five districts with four schools in each. A separate stream for vocational education has not been introduced as proposed in the 10+2 pattern.

Instead each pupil in academic streams of art, science and commerce has to offer two vocational courses from 1978-79. The vocational courses are: engineering, agricultures, commerce and technical trades. This is a major departure from the idea of having a separate vocational stream at +2 level as advocated in the new pattern.

7. There are six universities in the State and the B.Ed. syllabi of all the universities have been revised during the period from 1972-76. Almost all the universities have, however, reported that no major changes have been made in the B.Ed. syllabus in the light of the new pattern, although some universities have introduced work experience and community living in their B.Ed. programme.

8. It was informed during the interview by the officers of the State Education Department that a committee was being appointed to examine the whole question of the revision of B.Ed. Curriculum in the light of the 10+2 pattern of school education in the State.

9. The elementary teacher education syllabus was developed by a committee of the State Board of Teacher Education in 1967 and was introduced in all the elementary teacher training institutions of the State from 1968-69. It was, however, revised in 1970 on the recommendation of a conference of teacher educators in the State. The syllabus is still in vogue.

10. Work experience has been included as a compulsory subject in the elementary teacher training syllabus at ordinary and advanced levels. A student offering work experience at ordinary level is required to choose two work experience activities and the one who offers it at the advanced level is to select three activities.

11. It was found from the data collected from the teacher training institutions that in about 49% cases properly qualified teacher educators are not available to teach a particular subject. It was also found at the time of interview with the officers, that short-age of teachers existed mostly in the subjects of English, New Mathematics and Science.

12. a) It was found that 7 institutions out of 26 did not provide for any work experience activity in their institutions.
- b) The study shows that only 1% to 5% time is devoted to work experience activities in the teacher training institutions.
- c) 83% of the teacher education institutions have trained staff for work experience activities.
- d) It was found that there are 17 types of work experience activities carried out in the teacher training institutions covered under the study. It was noted that the maintenance of electrical 'gadgets' is being offered in 12 institutions which is the largest number for any single activity. Spinning and weaving is offered only in one institution.
- e) It was found that 36% of the institutions have adequate physical facilities, 44% have somewhat adequate facilities and 20% have inadequate or no facilities.
- f) The study revealed that 58% of the institutions covered under the study are seeking some kind of co-operation from the community in conducting work experience programmes.
- g) It was revealed that a number of problems are being faced by the institutions in conducting the work experience programme.

Some of the most common problems are paucity of qualified staff, shortage of workshop, shortage of time and lack of funds.

13. a) 15% of the responding institutions are offering physical and/or health education as a part of teacher training programme as revealed from the questionnaires received from the teacher education institutions. It was, however, found from the analysis of the B.Ed. syllabi of different universities that a section on health services in schools is included in the paper on school organisation in the syllabi of all the universities.
- b) It was found that practical work related to physical education is included in the syllabi of three universities only, namely, Bombay, Marathwada and Shivaji.
- c) It was revealed that majority of the responding institutions are devoting more time to practical work than to the theory.
- d) It was found that only 50% of the institutions offering physical education programme have trained staff.
- e) The study shows that about 64% of the institutions offering physical education programme have adequate facilities for the purpose.
14. a) It was found from the analysis of syllabi of the universities in the State that Art and Culture is not a part of the programme at B.Ed. level. In some universities it is offered on optional basis in the form of Drawing, Painting etc.
- b) It was found that only 32% of the responding institutions are offering Art and Culture in the programme and that also in various other forms like art, music, dance, drawing and not as a composite subject.

- c) It was found that there is a need of adequate trained staff in the teacher education institutions for offering this subject to all the student teachers. The institutions also need adequate facilities of space and equipments.
- 15.
- a) It was revealed that 36% of the responding institutions are taking some steps to prepare student-teachers in the development of moral values in children.
  - b) The study shows that most common activities being organised by the institutions are cultural activities, lectures and discussions, celebration of national days and common prayers.
  - c) It was found that the activities are not being carried out properly because there is shortage of time and frustration among the staff and students.
- 16.
- a) It was found that all the responding universities are preparing student teachers in the new system of evaluation.
  - b) The semester and grading systems are neither being followed in the schools nor by the teacher education institutions and, therefore, student teachers are not being prepared to work in such a system.
- 17.
- a) It was found that no <sup>B.Ed.</sup>syllabus includes teaching of the new content or revision in any subject in the universities of the State.
  - b) The content teaching has been included in the elementary teacher education syllabus since the duration of the course was raised to two years.

- c) It was found that 10% of the responding institutions only are teaching some content in the institutions at their own initiative.
  - d) It was found that method masters of science, mathematics and geography are facing difficulties in teaching the subjects in view of the new developments.
  - e) It was revealed that 45% of the responding institutions prepare their student teachers in the new approaches to teaching like unit teaching, integrated teaching and discovery approach.
18. It was found that no teacher education institution is preparing teachers for vocational courses in the State.
19. It was reported that there is still backlog of untrained teachers in the State.



## VI. PROBLEMS AND SUGGESTIONS

The problems identified through the study and the suggestions for the same are as follows:-

Since the syllabus of various subjects in the new pattern has been enriched and a number of new activities have been added, there is an urgent need for in-service training of existing teachers working in the schools under the new pattern, particularly in the subjects of Science, Geography and Mathematics. State Institute of Education has already taken action for the orientation of teachers in various subjects in a phased programme. It is, however, suggested that a well planned and time bound programme for orientation of teachers may be prepared and carried out. Particular attention may be paid to orient teachers in such areas as environmental studies, art and culture, development of moral values etc.

Backlog of untrained teachers in the state is still reported. The Department may, therefore, take necessary action to clear the backlog of these untrained teachers keeping in view the new pattern of school education. This may be done by organizing part-time and correspondence courses besides the provision already made in order to clear the backlog as early as possible.

It was reported that there is a shortage of school teachers in English, New Mathematics, Geography and Science. Special efforts may be made for admitting candidates in these subjects in the teacher education institutions. If necessary some incentives in the form of stipend, freeships, etc. may be given to the students offering these subjects during the training.

4. With the introduction of vocational courses at the plus two level, pupils will not be awarded any certificate qualifying them for vocational jobs or to go for higher courses in these vocations. It may as such not provide any incentive to offer such courses. It is, therefore, desirable that State may take steps to so organise the pattern of vocational courses as to link these with jobs and higher courses in the concerned vocations. Teacher education programmes may also be organised accordingly.
5. All the teacher education institutions in the State are not offering work experience activities. Moreover, the Patel Committee report on ten-year school pattern has suggested replacement of work-experience with 'socially useful productive work' (SUPW). It is suggested that 'socially useful productive work' may be introduced in all the schools and training institutions in the State.
6. Not all the teacher education institutions have trained staff for work experience activities. It is desirable that trained staff may be provided in all the institutions.
7. Many institutions do not have adequate facilities for work-experience activities. It is suggested that adequate facilities for SUPW may be provided in all the institutions.
8. Although co-operation from <sup>the</sup> community is being sought in carrying out work experience activities, it is desirable to secure more co-operation for this purpose in order to make the programme more effective and establish better school community relationship.
9. A common problem of the institutions is the shortage of space, equipments, funds and time. Since all these factors are important

for successful implementation of the programme, the Department of Education may take necessary steps to remove these difficulties.

10. The teachers under training in health and physical education are not being prepared the way it is desired in the new scheme. Health and physical education are taken up separately in the teacher education institutions and not in an integrated manner as envisaged under the new pattern. Also, there are a number of deficiencies in the programme of training institutions such as lack of sufficient time, facilities and trained staff. It is therefore suggested that the training programme may be modified suitably to fit into the new pattern.
11. The art and culture is not being offered with its enlarged scope. It is more or less done in the traditional form. It, therefore, leaves much to be desired by way of offering the subject in all the institutions, by providing adequate trained staff and adequate facilities.
12. Necessary training for development of moral values in children is not being provided to student teachers. It is reported so because teacher educators have shortage of time and there is frustration among the staff and students as pointed by some of the institutions. Suitable steps should be taken by the State Department and Universities to properly organise this activity in the institutions as this dimension has been given <sup>a</sup> lot of emphasis in the new scheme.
13. Student teachers are given training only in objective type testing and not in the new procedure of evaluation in education, grading system and in using the semester system as recommended in the new pattern of school education. Steps may be taken to introduce it.

14. Necessary preparation in subject-content is not being provided to the student teachers because the teaching of content does not form a part of the secondary teacher education programme in the Universities of the State. Besides, there is shortage of time also for teaching content during the nine-month period. It would be better if the remedial and enrichment subject content is integrated with the methodology of teaching as recommended in the NCTE document (NCERT, 1978).
15. Some teacher training institutions do not have experimental schools where they may do some experimentation on new approaches and methods. It is suggested that an experimental school may be attached to every teacher training institution as it is all the more desirable for preparation of teachers for 10+2 system.
16. Many teacher education institutions have reported lack of staff members possessing post-graduate degrees in English, geography, mathematics, science, commerce, sanskrit, economics. Orientation courses should be organised by the State Institute of Education and the Universities to orient them in these subjects.
17. Lack of co-operation from practising schools is also a problem which is being faced by a number of training institutions. Means and ways may be devised to seek cooperation from the practising schools. For instance, one way could be to involve them in the evaluation of student-teaching.
18. There is lack of ~~reference~~ <sup>reference</sup> and other books in the libraries of teacher training institutions. It is desirable that adequate funds for this purpose are provided by the State Departments and Universities so that

student teachers are able to use the library for self study which has been emphasised in the new scheme.

19. No University in the state has revised its B.Ed. programme keeping in view the needs of the new school curriculum. It is, therefore, essential that immediate steps are taken by the Universities to revise their syllabi for teacher training to meet the needs of the type of teachers required for the new curriculum. It was, however, informed that a state level committee was being appointed to go into the question of revision of the B.Ed. course.
20. It was found that a number of dimensions elaborated in the framework prepared by the NCERT have not been incorporated in the school syllabus in Maharashtra. It would better, if a fresh look is given to the school syllabus in the light of NCERT's frameworks for school education and in the light of the report of the Patel Committee so that the latest developments are included in it.

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Appendix I

A Study of the Problems Bearing on Teacher Education  
in Relation to the New Pattern of School Education (Maharashtra)

Questionnaire

I General

1. Name and Address of the Institution \_\_\_\_\_  
\_\_\_\_\_
2. Name of the University to which your college is affiliated \_\_\_\_\_  
\_\_\_\_\_
3. Enrolment in B.Ed. Course in 1976-77 \_\_\_\_\_  
\_\_\_\_\_
4. Method Subjects offered in the College \_\_\_\_\_  

1.	5.
2.	6.
3.	7.
4.	8.
5. Elective Subjects offered in B.Ed. by the College.

1	5
2	6
3	7
4	8
6. Name Courses other than B.Ed. offered by the College and enrolment in 1976-77 in each.

<u>Name of the Course</u>	<u>Enrolment</u>
1	
2	
3	





d) If yes, in what way the courses are different?

\_\_\_\_\_

10. Has your University suggest any other changes in your B.Ed. training programmes in the light of 10+2 pattern of school education?

Yes \_\_\_\_\_ No. \_\_\_\_\_

11. If yes, please list.

[illegible]

## II. Work-Experience

1. a) Do you provide training in work experience to your B.Ed. students?

Yes. \_\_\_\_\_ No. \_\_\_\_\_

- b) If yes, What are the work experience activities offered by your college and whether necessary facilities exist for them?

[illegible]

2. What percentage of the total time available for Studies in a week is devoted to each work experience activity?

a) Time devoted to Theory of work experience

\_\_\_\_\_ %

b) Time devoted to Practical of work experience

\_\_\_\_\_ %

3. Whether any co-operation is sought from the Community for training in Work Experience programmes?

Yes \_\_\_\_\_ No. \_\_\_\_\_

4. If yes, please mention the work experience activities and procedure of co-operation.

<u>Work experience</u> <u>Activity</u>	<u>Procedure of</u> <u>Co-operation</u>
1.	:
2.	:
3.	:
4.	:
5.	:
	:
	:
	:
	:

5. a) What problems do you face/envisage in training pupil teachers for Work-Experience in your institution? Please list below -

1.

2.

3.

4.

5.

6.

7.

- b) If no training in work experience is provided now, in what areas can you provide training in work experience if required.

1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

- c) Additional staff if any required for this purpose.

[illegible]

- d) Additional physical facilities required for this purpose.

### III. Health & Physical Education

1. Is health and Physical education being offered to teacher trainees as a programme in your institution?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, whether compulsory or optional?

2. How much time (in percentage of Weekly total time) is devoted to this aspect in the training programme.

a) Theoretical aspect	%
1. Theoretical aspects of the problem	
2. Theoretical aspects of the solution	
3. Theoretical aspects of the results	
4. Theoretical aspects of the conclusions	
5. Theoretical aspects of the discussion	
6. Theoretical aspects of the summary	
7. Theoretical aspects of the references	
8. Theoretical aspects of the appendixes	
9. Theoretical aspects of the bibliography	
10. Theoretical aspects of the index	
11. Theoretical aspects of the title page	
12. Theoretical aspects of the cover	
13. Theoretical aspects of the back cover	
14. Theoretical aspects of the foreword	
15. Theoretical aspects of the preface	
16. Theoretical aspects of the introduction	
17. Theoretical aspects of the conclusion	
18. Theoretical aspects of the summary	
19. Theoretical aspects of the discussion	
20. Theoretical aspects of the results	
21. Theoretical aspects of the solution	
22. Theoretical aspects of the problem	

b) Practical aspect

3. Whether trained staff is available for the programme?

Yes. \_\_\_\_\_ No. \_\_\_\_\_

4. Whether the existing facilities like Play ground, equipments etc. in your institution are adequate? (Please tick)

Adequate \_\_\_\_\_.  
Somewhat adequate \_\_\_\_\_.  
Inadequate \_\_\_\_\_.

5. What problems, if any, do you face/envisage in carrying out the health and physical education programme in your institution?

IV. Art and Culture

1. Whether provision for compulsory teaching of art & culture exist in your training College?

Yes \_\_\_\_\_ . No. \_\_\_\_\_

2. How much time is devoted to this aspect in the training programme?

Percentage of the total time in a week:

a) Theoretical aspect \_\_\_\_\_ %  
b) Practical aspect \_\_\_\_\_ %

3. Whether trained and qualified staff is provided for this programme?

Yes \_\_\_\_\_ . No. \_\_\_\_\_

4. What is the position of physical facilities for this programme in your college?

Adequate \_\_\_\_\_ Some what adequate \_\_\_\_\_

Inadequate \_\_\_\_\_.

5. What additional staff and physical facilities do you need for teaching art and culture to your B.Ed. trainees?

Additional Staff  
required

Physical facilities  
required

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

V. Development of Moral Values

1. Has your institution taken any specific steps to prepare teacher trainees in developing moral values among students?

Yes \_\_\_\_\_. No. \_\_\_\_\_.

2. If yes, please list the activities organised for this purpose.

1.

2.

3.

4.

5.

6.

7.

3. Do you prepare trainees in the methods and techniques of evaluating the development of moral values among students?

Yes. \_\_\_\_\_. No. \_\_\_\_\_.

4. If yes, please describe the evaluation procedures which are suggested to the trainees.

1.

2.

3.

4.

5. What problems do you face/envisage in teaching the development of moral values & their evaluation procedure?

1.

2.

3.

4.

VI. Reforms in Evaluation

1. Whether teacher trainees in your college are being prepared to use new system of evaluation in schools including semester system and grading? Yes \_\_\_\_\_ No. \_\_\_\_\_
2. Are there any staff members in your college who are trained in this system through any workshop/seminar organised by SIE/NCERT, etc?

VII. Content and Methods

1. Do you prepare teacher trainees in subject content along with methods of teaching in your college?  
Yes. \_\_\_\_\_ No. \_\_\_\_\_
2. If yes, do you take care of new content added to the school subjects under the 10+2 Scheme?  
Yes \_\_\_\_\_ No. \_\_\_\_\_
3. Whether the method masters are facing any problem in teaching the new contents?  
Yes. \_\_\_\_\_ No. \_\_\_\_\_
4. If yes, what are the subjects in which the difficulty is faced? Please list.
  - 1.
  - 2.
  - 3.
  - 4.
5. Are you preparing teacher trainees in the new approach to teaching methods like integrated teaching, unit teaching, problem solving etc?  
Yes \_\_\_\_\_ No. \_\_\_\_\_
6. If yes, what are the problems felt/envisaged if any, in adopting these new approaches?
  - 1.
  - 2.
  - 3.
  - 4.



4. If yes, please give details in the following table -

[illegible]

5. Please state the problems, if any, faced by your training institution in seeking co-operation from outside agencies.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Appendix II

A Study of the problems Bearing on Teacher Education for  
in Relation to the New Pattern of School Education

I N N T E R V I E W   S C H E D U L E

I. School Education

1. From which year the 10+2 pattern has been introduced in your State?

\_\_\_\_\_

2. What is the present Structure of the new Scheme in your State?

\_\_\_\_\_

3. What difficulties are you facing in the implementation of the new pattern?

\_\_\_\_\_

4. What new Subjects/programmes are introduced in the new pattern at school level?

1. 5.

2. 6.

3. 7.

4. 8.

5. What difficulties are being felt in introducing the new subjects in Schools?

1. 4.

2. 5.

3. 6.

6. Please list the administrative problems faced in the implementation like - the surplus/shortage of teachers, buildings, equipments, workshops laboratories, etc.
- 1.
  - 2.
  - 3.
  - 4.
  - 5.
  - 6.
7. Please state the difficulties being felt in introducing work experience and vocationalization in schools.
8. Whether health and physical education, art and culture and inculcation of moral values introduced in schools.
- Yes \_\_\_\_\_ No. \_\_\_\_\_
9. a) If Yes, what difficulties are faced, if any?
- b) If not, the reasons for not introducing these programmes may please be stated.

## II Teacher Education

10. What recommendations have been made, if any, for corresponding changes in the Teacher Education Curriculum in view of the new pattern?
- A. Elementary Teacher Education \_\_\_\_\_
- \_\_\_\_\_
- B. Secondary Teacher Education \_\_\_\_\_
- \_\_\_\_\_

11. What changes have been made in the content of teacher education at each level?

\_\_\_\_\_

12. What changes have been suggested in the methods of teaching various subjects at the teacher education level, if any?

\_\_\_\_\_

13. What recommendations have been made to teacher education institutions to improve evaluation procedures?

\_\_\_\_\_

14. Whether Semester and grading systems have been introduced in teacher education institutions?

Yes \_\_\_\_\_ No. \_\_\_\_\_

15. How are the teachers for work experience and vocationalisation programmes prepared?

16. Whether the new teachers are being trained in teaching art and culture?

Yes \_\_\_\_\_ No. \_\_\_\_\_

17. Whether the teachers for +2 stage are being trained in a different way than the usual B.Ed. Programme?

Yes \_\_\_\_\_ No. \_\_\_\_\_

If yes, in what way?

18. How teachers are <sup>are</sup> ~~trained~~ <sup>involved</sup> in community service?

370:7 610Y  
11 200

36

19. What other changes if any have been made in the teacher education programmes in light of the new Pattern of School education?

DLDI, NCERT  
370 7 F13986  
GOY (N R)

NAT (N-R)

